

CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A multi-protocol adapter ~~having circuitry and programs for in-vehicle and non-vehicle networks,~~ for communicating with one or more remote computers over any one of a plurality of protocols, the adapter comprising:

~~simultaneous interaction between the adapter and at least one device using multiple protocols~~ an integrated CPU including an embedded operating system, said operating system including software interface modules and device drivers for one or more of interrogating, monitoring, retrieving data, downloading data, recording data, revising data and performing diagnostics over any one of the plurality of protocols, wherein the operating system is capable of simultaneously communicating with the one or more computers running different protocols; and

a plurality of daughter board interface slots for accepting at least one daughter board interface modules for expanding the protocols of the multi-protocol adapter.

2. Cancelled.

3. Cancelled.

4. (Currently Amended) A multi-protocol adapter ~~having circuitry and programs for in-vehicle and non-vehicle networks,~~ for communicating with one or more remote computers over any one of a plurality of protocols, the adapter comprising:

an integrated CPU having an embedded operating system, said operating system including software interface modules and device drivers for one or more of interrogating, monitoring, retrieving data, downloading data, recording data, revising data and performing diagnostics over any one of the plurality of protocols, wherein the operating is capable of simultaneously communicating with the one or more computers running different protocols;

the CPU having simultaneous interaction between at least one multiple device using multiple protocols;

at least one daughter board having interconnect slots;

an interface for interconnection of the at least one daughterboard;

a serial port for diagnostics and system maintenance;

a flash socket for storage of system software;

a slot for connection of a peripheral;

a socket for connection of RAM;

an interface for connection of system RAM;

an interface for connection of mass-storage devices;

a battery for clock and configuration memory backup

an infrared serial interface; and

a piezoelectric speaker.

5. (Currently Amended) A The multi-protocol adapter ~~having circuit and programs for in-vehicle and non-vehicle networks~~ according to claim 3-1 wherein the embedded operating system comprises Linux operating system.

6. (Currently Amended) A The multi-protocol adapter ~~having circuitry and programs for in-vehicle and non-vehicle networks~~ according to claim 1, the adapter further comprising:

~~definition of~~ means for defining communication routines between the adapter and a client via a host device, and

~~communication~~ means for communicating between the adapter and the client after definition of communication routines between the adapter and the client.

7. (Currently Amended) A The multi-protocol adapter ~~having circuitry for use with programs for in-vehicle and non-vehicle networks~~ according to claim 1, the adapter further comprising:

a TCP/IP connection established between two software elements, the connection of serial multiplex network messages between software entities being generalized without knowledge of a specific type of multiplex network.

8. (Currently Amended) A ~~program for use with a multi-protocol adapter for in-vehicle and non-vehicle networks, the program comprising~~ The multi-protocol adapter according to claim 1 further comprising:

a server program handling communications between a source entity and a destination entity.

9. (Currently Amended) ~~A program for use with a multi-protocol adapter for in-vehicle and non-vehicle networks, the program according to claim 8~~ The multi-protocol adapter according to claim 1 further comprising:

at least one of message scheduler, a message responder, a message filter and or a script loader.

10. Cancelled.

11. Cancelled.

12. (Original) The multi-protocol adapter according to claim 1 further comprising:

an on-board web server.

13. (Original) The multi-protocol adapter according to claim 12 further comprising:

communication between users of the adapter and the adapter via a web browser technology.

14. (Original) The multi-protocol adapter according to claim 13 further comprising communication between users of the adapter and the adapter via a web browser via HTML.

15. (New) The multi-protocol adapter according to claim 1 wherein the plurality of protocols are selected from the group consisting of controller area network protocols, J1850 protocols, key word protocol 2000, and UART-based protocols.

16. (New) The multi-protocol adapter according to claim 1 wherein the daughter board interface modules are selected from the group consisting of SAJ1850, UBP, CCD, SCI, CAN, SAEJ1587, J1939, J2284, J2411, ISO 11992, 9141-2 and KWP2000 modules.